

TANNING WHITE LEATHER IN JAPAN

By Lloyd Balderston,
In Our Views and News.

White leather has been made a Takagi, Japan, for over three hundred years. The village has a population of about 3500, living in 600 houses, occupying a space of hardly more than ten acres. It is said to be like a piece of China set down in the midst of Japan, and to the Japanese the villagers have a different look from other people. They were of the "eta" class in the old days. This class was the lowest, socially, and certain occupations including leather making, were carried on by eta-only. They were meat eaters in the old days when the Japanese did not generally eat meat. The name eta has no official recognition in Japan now. The late Emperor early in his reign abolished the eta class and promoted them to be "hemin," ordinary people. But I notice that the term "shinhenin" is in use, which means new-hemin, so there is a distinction, whether there is a difference or not. Whatever the social handicap of the people of Takagi may be, they make a very useful product, which nobody has succeeded in imitating.

This little place furnishes nearly all of the \$150,000 worth of white leather produced annually in Japan. The industry is essentially a domestic one, in which practically all of the people old enough to work are engaged for at least a part of their time. The tools required are few and inexpensive, and but little space is needed for the part of the work which is done indoors.

The river is swift, and the main current flows along an outer curve past the village. The slope of the river bank is perhaps 50 yards wide, and it is gridironed with ridges at right angles to the stream. These are a foot high with a steep side toward the north and a gentle slope of 8 feet facing the south, forming a sort of sloping terrace, built of pebbles. These ridges number a hundred or more, and on a sunny day they will be covered with hides loosely spread out, grain side up. Japanese white leather, like hay, must be made while the sun shines.

In making white leather any kind of a hide will do. Japanese green or wet-salted hides are used to some extent. We saw one freshly flayed cow hide being brought in to be put in process. The great majority, however, are dry or dry-salted hides of rather inferior quality. This is possible because most of the uses to which the leather is put are such as not to demand large pieces without blemish, and on the other hand the price which the product demands is too low to warrant the use of high grade stock.

The first process is to tie the hides by ropes to stakes set in the river in water one or two feet deep, in such a way that they float out and wave up and down in the current. The water must be clear and not too warm, so in summer this soaking is done in a branch of the river coming down out of the mountains, which is cooler than the main stream. The time required for the hair to be ready to slip in summer is three days for fresh hides, four days or more for dry or dry salted ones. In spring and fall these periods are longer, ranging perhaps from ten to fourteen days. In the fall the hides are often taken out of the water and laid in a pile covered with mats for a few days to sweat before the hair will slip. In winter this first soaking may take a month. The unslaking is done on a flat board, the worker standing up, the board

with the hide being on the ground. The hair is pushed off with a tool consisting of a slightly curved blade fastening spade-wise to a handle four feet or more long.

The next process is a brief washing. The hides are then shaved to the required thickness on a flat cherty plank about 14 inches wide sloping about 30 degrees from the horizontal with a knife built much like a spoke shave except that the very thin blade is at right angles to the face of the tool. This tool is pushed, not pulled. It takes about forty minutes to shave a skin. The material shaved off is dried in cakes about 12 by 16 inches in size and an inch thick and sold for glue stock.

The wet shaved hides are now sprinkled with salt, from one and a half to three quarts, depending on the size of the hide. The hide is now trodden and worked with the bare feet to work in the salt. This is done in a shallow wooden tub. The color becomes lighter as the salt penetrates, and this color change is the index of the completion of the process, which requires fifteen minutes or more for one hide. The hides are now packed into a cask where they lie for from one to three days for the salt to become uniformly distributed. During this period the grain is liable to become mottled by the growth of some organism on the surface.

The next step is to spread the hides out in the sunshine to dry and begin the tanning process. If the sun is not shining, they are trodden every day until it does, to prevent the mottling of the grain. The period of exposure to sunshine required for this first drying and bleaching is sometimes as short as two or three days in dry, warm weather, but in winter it may reach thirty days. The completion of this stage is judged by the appearance of crystals of salt on the grain side. To decide when the proper condition is reached is one of the most difficult points in the whole process.

The next stage may be translated as "seasoning," but the term is rather contradictory, as it consists in the removal of salt by soaking. In summer this is done by immersion in the river, but in cool weather the hides are placed in a water cask. The proper length of soaking to leave just enough salt in the skin is determined by tasting. After drying, the hide is ready to receive the rape seed oil, which is the chief agent in the actual tanning. The surface is prepared to receive it by spraying with water blown from the mouth as the Chinese laundries used to sprinkle clothes. The oil is applied to the flesh side with a swab, from two to five ounces per hide, depending on size and thickness. Marse animal oil may be used instead of rape, but the color of the finished leather is not so white as that made with rape oil.

A number of holes are now cut around the edge of the hide, and a string run through, making a bag of it, grain side out. This is so folded as to make a mass two feet or so long, and the second treading process begins. This time the hide rests on a straw mat on the floor. The worker grasps a horizontal bar and kneads the hide with his bare feet, much as a housewife used to treat dough with her hands. I suppose there is some Japanese term to denote foot still as dexterity describes the skill of the right hand, and that it is applied to the left movements by which the soft mass worked over and over until the oil comes through to the grain side. This work is done by men, women and half-grown children. The warmth of the feet is an essential element in it. The time required is from a half day to a day or more, depending on the size of the hide and the weight and strength of

the worker.

A light coat of oil is now applied to the grain side, and another shorter period of treading follows. Next comes a second period in the sun, shorter than the first, and depending on the weather as before. Another treading follows, a little oil and water being applied, if needed. The next step is to wash with a little water, to avoid loss of salt. The hide is spread on a horizontal board and a wisp of straw is used as a brush. If the hair did not come off entirely in the first place, remaining patches are now removed by shaving with a knife and another period of drying and bleaching follows, covering three days or more.

Another treading comes next, then a first staking, about fifteen minutes to a skin. The staking tool is of a familiar pattern, but the upright is not high enough for a western man to work at with comfort. Another period in the sunshine follows, then another treading, the grain inside this time, and then another staking. Now follows a long period of bleaching in the sun forty days in winter, but sometimes as little as four in summer. The color at the end of this period is white, the yellow due to the oil having been entirely bleached out. After this the goods lie in pile, folded, for from thirty to sixty days, depending on the time of year. (The temperature reaches the freezing point only a few times in the course of the winter in Himeji.) During the piling the oil comes to the surface again, but a few hours bleaching restores the white color.

A short-soaking to remove more salt is now given, the proper point being determined as before by tasting. This results in bringing back the yellow color again. Another washing with a wisp of straw is followed by sunning for about a day. The leather is now rather hard, the grain side smooth, hair pattern hardly showing. The flesh side is somewhat yellow.

Each hide is now folded in four and placed in the river until just wet through, then trodden and staked, then laid in the sun for half an hour, and while warm from the sunshine trodden again for half an hour and staked for half an hour. The skin is now quite white and the hair pattern shows plainly.

Another sunning of from one to three hours is followed by another treading and staking. The hides are spread out on the ground over night to become damp, and then pegged out on straw mats on the ground, stretched tightly, being exposed to the sun for final drying. The whole time consumed in the process averages about six months.

The product is as soft as well bated side leather, as tough and durable as oil-tanned lace leather and as white as the whitest alum-tanned leather. It is divided into three grades with respect to thickness, and these are subdivided in grades of both quality and weight. The heavy grade averages 35 pounds per 100 square feet, present prices ranging from 61 to 65 sen per square foot. The actual measure used is the square shaku, which is about 0.99 of a square foot. The sen is about half a cent. Medium weight ranges around 25 pounds per 100 square feet and brings from 59 to 62 sen. Light weight averages 17 pounds per 100 square feet and brings from 57 to 60 sen. The grading is done at the request of exporters, the pound used being the same as ours. Quality is not very uniform, there being too many factors difficult to control.

The heavier grades are mostly used in Japan, largely for straps of various kinds, lacings for fencing armor, belts for light machinery, etc. The best quality wooden clogs have white leather straps. Export trade takes the lighter skins. These are used for suspender tabs, bags, purses and fancy articles of various kinds. The low prices above quoted are made possible by the fact that the hides used are cheap, and the further facts that the expense for materials is very small, that the glue stock commands a steady market at a good price, and most important of all, that the labor is very poorly paid. Tanneries elsewhere are beginning to draw on the skilled resources of Takagi, and this fact cannot fail to have its effect on the conditions of work here. It is greatly to be desired that such a laborious manufacture should be rewarded by better prices being obtained for the white leather.

Many of the hides we saw were seriously defective, full of warble holes, "sunburned" or otherwise injured. One was branded "C.C." apparently a Mexican hide. The same kind of leather is made at two other villages near Himeji, but is not so good as the Takigi product. The difference is attributed to slower current in the stream and lower purity of the water. At Osaka and Kobe it is impossible to make it because the air is so full of soot that everything laid out in the sun becomes dirty beyond recovery. It has been suggested that the production of this leather is in some way protected by the character of the water. Such an explanation is very improbable. The country has heavy rainfall, and the Ichikawa is a short and rapid stream of high volume. Under such circumstances the presence in the water of any mineral matter having tanning effect is not likely. The mere fact that when the water is moderately warm hides immersed in it slip their hair in a few days shows that it is not a tanning agent.

I believe that this famous leather is simply oil-tanned with the minimum of oil and the maximum of labor. In the first place, about 5 per cent of salt is worked in, and this produces a sort of temporary tanning. It is a familiar fact that a salted

THE SUMMER OF 1816

"I haven't heard much else but talk about the weather since I came to New York," said Nonagenarian James Winchester, of Vermont, who is visiting his daughter in this city, "and you have had a pretty snug winter for here, I suppose, but I remember the year that was winter from one end of it to the other, and when the weather was so severe in June that a terrible snowstorm prevailed on the 17th of that month, and people froze to death in the month of roses. I don't think there are many people who have a vivid recollection of the year without a summer as I have, for various reasons, one being that there are few surviving who was as old as I was in that year, and another is because a near relative of mine was frozen to death in Vermont on June 17th of that year, which was the year 1816.

"I was 14 years old then, and lived in Vermont, where I always lived, and where that memorable season was at its very worst, as in the other New England States in June snow fell, but 5 inches deep, and in New York, Pennsylvania and New Jersey it was nowhere deeper than 3 inches. In Vermont it was 10 inches, on the level. I mean the great snow of June 17th. Snow fell several times during that month, and ice froze every day in the month. In fact there were snow and ice in every month of 1816.

"That snowstorm of June 17th was one of the severest ones I ever saw, even in the depth of winter in that locality of severe snows. An uncle of mine had some sheep in a back pasture lot. To get to that lot he had to go through a piece of woods for nearly a mile. The weather had been very cold all through June. The big storm of the 17th began about noon, and my uncle started after dinner to go to the sheep pasture to fix up a shelter of some kind for the sheep. No one had an idea, cold and eccentric as the weather had been up to that time, that we could have a fall of snow that would amount to anything at that time of year. I was at my uncle's when he left home to go to the sheep lot, and as he went out of the door he said to his wife in a jocular way:

"If I'm not back in an hour, call the neighbors and start them after me. June is a bad month to get buried in the snow, especially when it gets so near the month of July."

"Nothing more was thought of the matter. The snow increased in fury and by night had drifted so that the roads were almost impassible, but even then, and when it grew dark, none of us felt uneasy about uncle. The weather had become bitter cold. When night set in I earnestly, and there was no sign of my uncle's return, his wife sent me and my cousin, who was two years younger than me, to alarm the neighbors and tell them that we believed uncle had been lost in the snow and had perished.

"We had a hard time getting to the nearest neighbor's less than a mile away and there gave the alarm, but could go no further. The neighbor summoned others, and, in spite of the severity of the night they searched the woods until morning, but no sign of the missing man could be found. The search was taken up by others the following day and all of the next night, without any trace of him being discovered, except that he reached the pasture and built a shelter of boughs in one corner of the lot, under which the sheep huddled. On the forenoon of the third day the searchers found my uncle buried in the snow a mile from the pasture, in almost an opposite direction from home. He was frozen stiff.

He had evidently become bewildered in the blinding storm and had wandered about until he succumbed to fatigue and cold. It seems a most improbable thing that a person ever fell a victim to a snowstorm in the middle of June in this latitude but I have this sorrowful knowledge of one instance, at least, where such a thing was only too true.

"The wind during June, July and August of 1816 was continuously from the north, and it blew fiercely and cold. Farmers wore heavy overcoats and mittens while about their work every day during those months. There was but little use of planting anything, nothing grew to speak of, but they did plant corn as usual, and planted with mittens on.

"There was very little rain during the entire season. The great piles of firewood that always accumulated during the summer months at the farm-house back doors in readiness for winter didn't accumulate in 1816. They were needed for current use, and July was colder even than June, and August was colder than July, ice half an inch thick was formed in July, out in August it froze an inch, and more. There was a heavy snowstorm on Aug. 30. The whole summer was as bleak and dreary as November. There was not a green thing

hide is not flint hard. The working in of the oil is very thorough, and as it slowly produces its tanning effect, the salt is gradually worked out. In the ordinary kind of oil tanning, a great excess of oil is used, and afterward removed. There is no more free oil in chamolis than in Japanese white leather, and it is possible to bleach chamolis almost white by exposing it to the sun in a damp condition. If a split cowhide was subjected to chamolisage with rape seed oil and then sun-bleached, it would probably be much like Japanese white leather. I intend to try some experiments along this line, but shall be glad if other leather men will do the same, especially if they will publish their results.

to be seen anywhere. The first two weeks in September brought the first real warm weather there had been during the year. The thermometer went up to 70 degrees, which was 25 degrees warmer than it had been since May.

"The general opinion had been that the cause of the cold summer was a sudden and rapid cooling of the sun by some violent disturbance, and many believed that the end of all things was at hand. The appearance of the warm spell in September, though, dispelled that fear for a time but on the 16th of the month the cold weather returned suddenly, and the calamity believers were once more made miserable by their old fear. One old man, James Gooding by name, was so hopeless over the prospect that he killed all his cattle and then hanged himself, after vainly trying to induce his wife to make away with herself also, to escape the terrible and gradual death by freezing and starvation, which he believed was to be the common doom.

"Cold increased from the middle of September until winter returned, and it may truly be said that, in Vermont at least, the year 1816 had neither spring, summer nor autumn. There wasn't grain enough grown that year to seed the next year, and those who were lucky enough to have more of the crop of 1815 on hand than they wanted for their own use had no difficulty in selling it for 85 or more a bushel."—New York Sun.

"A JEWEL OF CHICAGO" Is Title Applied to Wrigley Building

Wrigley's new office building in Chicago is at the new Boulevard Link Bridge, Michigan avenue and the river and heads the vista looking north on Michigan avenue, so Mr. Wrigley chose a beautiful design which makes the building a decorative feature of the Chicago lake front and harmonizes with the Chicago Beautiful plan.



Wrigley Building

The main building is 16 stories high, surmounted by a tower 42 feet square and rising 393 feet from the street level. This tower will contain a clock with dials on four sides, each 20 feet in diameter and will be surmounted by a searchlight lantern 9 feet in diameter. The building is covered with enamel finish terra cotta on all four sides. It is regarded as one of the most beautiful buildings in Chicago and people and press are enthusiastic about it. The Chicago Tribune published a picture labeling it a "Jewel of the Link."

Wrigley also recently completed new factories at Chicago and New York.

All this new construction work in the space of a few years is certainly a tribute to the power of advertising and the accumulative effect of a multitude of 5-cent sales.

Among the commencement features of the high school will be class day program, Thursday afternoon, May 26, at 2:30. The program will consist of a class prophecy, history, and valedictory address. At the close stunts will be put on by the freshmen, sophomore and junior classes and the faculty. This is the first year that class day has been held at E. D. H. S. and it is hoped that the public will attend.

Mrs. Woods P. Gum, of Charleston was in Marlinton last week. She was on her way to Highland County to spend some time with her people.



Ship into a Bradley and Out-of-doors Exclusive Model, no reorders on this model. A. S. OVERHOLT & SON Marlinton, W. Va.

Just WHISTLE
Wrapped in Bottles

If you want to be healthy, happy and wise, just Whistle.

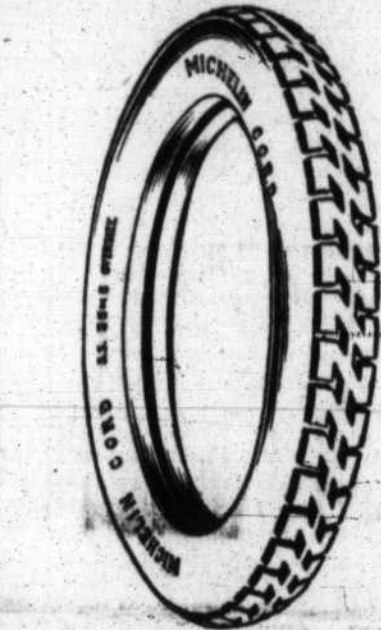
Always the same the world over

Marlinton Bottling Works
Marlinton, W. Va.

POCAHONTAS COUNTY FAIR 1921

August, 16, 17, 18 and 19th.

- Cattle
A. C. Barlow, Chairman,
S. R. Nethkin, Greenbank District
W. H. Barlow, Huntersville District
J. S. McNeel, Little Levels District
- Horses
E. M. Richardson, Chairman
B. H. Beard, Greenbank District
John A. Cleek, Huntersville District
L. P. McLaughlin, Little Levels District
- Sheep
Wise Herold, Chairman
Dr. U. H. Hannah, Greenbank Dist.
Henry E. Herold, Huntersville Dist.
Sam Sheets, Little Levels District
- Hors
W. E. Poage, Chairman,
F. W. Ruekman, Little Levels Dist.
O. G. Arbogast, Greenbank Dist.
Isaac Barlow, Huntersville District
- Poultry
Coe Beverage, Chairman
Miss Zell Poage, Edray District
Lanty McNeel, Little Levels Dist.
Mrs. Harry Moore, Greenbank Dist.
L. O. Simmons, Town of Marlinton
- Agricultural
H. C. C. Willey, Chairman
Boys and Girls Clubs
G. Pearl Carter, Chairman
Boys and Girls Clubs (Colored)
Ernest Banks, Chairman.
- Household Exhibit
Mrs. J. A. McLaughlin, Chairman
Mrs. E. N. Moore, Greenbank Dist.
Mrs. Elmer Moore, Huntersville Dist.
Mrs. Carl Beard, Little Levels Dist.



Before deciding on your next tire have your dealer show you cross-sections of the various makes you are considering—so that you can measure the total thickness of the rubber and fabric used in building up the various makes.

You will find that Michelin Tires embody more of these m'age-giving materials. In the 34th Michelin Universal, for example, there is a solid though flexible mass of wear-resisting rubber and fabric almost an inch thick.

Every bit of the materials used is of the highest quality. Yet Michelins are moderate in price.

Hiner & Gum's Garage

Marlinton, W. Va.

Commissioner's Sale

Pursuant to a decree of the Circuit Court of Pocahontas County, West Virginia, entered at the April Term, 1921, in the chancery cause of Clarence Sheets vs William Geiger, the undersigned special commissioner will on

TUESDAY, June 7, at 1 o'clock p.m. the first day of the June Court, at the front door of the court house of said county, sell at public auction to the highest bidder, the following described real estate situated in the village of Greenbank in said county, known as the Greenbank Garage, consisting of two adjoining parcels of land, one of which was conveyed to said Sheets and Geiger by W. S. Darnell and wife and described as a store house and lot and 12 feet of ground additional as will be seen by said deed of record in said county in deed book 57 page 169, and the other being the land between said Darnell and the road being the land conveyed to said Sheets and Geiger by W. H. Hull and Rachel C. Hull by deed of record in said county in deed book 57 page 298. Said land has on it a building suitable for a garage.

Terms of Sale: One third cash in hand and the residue on a credit of six and twelve months in equal installments with interest, the purchaser giving notes with good personal security the title to be retained as ultimate security.

L. M. McClintic,
Andrew Price,
Special Commissioners.

I, D. C. Adkinson, Clerk of the Circuit Court of Pocahontas County, West Virginia, do certify that the above named special commissioner has executed bond as required by said decree:

D. C. Adkinson, Clerk.

In Squire Suttons court at Cass on Saturday, Tony Sgatone was held for the grand jury on a charge of moonshining and Chas. Brown sentenced to six months in jail and a fine for having liquor in his possession.

George Vaughan has accepted a position in the merchant marine service, and left Charleston last week for New Orleans to take ship. His first trip will be to South American.

We can use several thousand pounds of Slippery Elm Bark in slabs not less than six inches wide and about three feet long. Must be well roused and thoroughly dried. The price will be three to five cents higher than our list price on small strips or grinding quality. Ship by freight to Marlinton, W. Va.

R. T. GREER & SON.

Farm For Sale

In York County, Penn.

112 acres; 25 acres wheat, 35 acres for corn, 7 acres for oats, 30 acres for hay. Watered by spring and well. Frame house, 10 rooms, cellar and bath room; basement barn, 40x80 feet, horse hay fork, hog house, 6 rooms and corn crib; chicken house, buggy house, summer house, fruit for family use; yellow iron stone soil; on public road, one mile to state road, 1 mile to high school and town; 14 miles to York, 1-2 miles to Dillsburg. Price \$5,500. Have six other farms for sale ranging from \$3,000 to \$6,500.

J. A. WILFONG, Julia, W. Va.

Thresher for Sale

A Fawcett thresher, 24 inch cylinder in first class condition, used only three years. At the bargain price of \$300.

FRED L. SHEETS, Hillsboro, W. Va.

FEDERAL RESERVE BANKING SYSTEM

The Modern Spirit

of cooperation, the spirit which animates all successful business, prevails in the organization of our Federal reserve bank.

We own stock in it. We keep our reserve cash in it. We have a voice in electing its directors and through them in choosing its management. It is our bank, and its resources enable us at all times to meet the legitimate banking requirements of our community.

You, in turn, can cooperate with us in maintaining the Federal Reserve Banking System, and at the same time share in its benefits and protection, by becoming one of our depositors.

MEMBER FEDERAL RESERVE SYSTEM

The First National Bank
Marlinton, W. Va.